

# **One Stop Grant 120 Day Plan**

---

To Further Environmental Information  
Management Reforms, Streamline  
Reporting, and Enhance Access to  
Environmental Data

**Jeff Johnston, Manager of Administration**

**Chuck Bennett, Manager Information Services**

**Bruce Carlson, ACES Project Manager**

**Lisa Bonnett, Agency Budget Officer**

---

# **INTRODUCTION**

## **IEPA Mission**

The mission of the Illinois Environmental Protection Agency is to safeguard environmental quality, consistent with the social and economic needs of the State, so as to protect health, welfare, property and the quality of life.

## **IEPA Organization**

Under the director, Illinois EPA is separated into two Deputy Director offices: Environmental Operations and Administration; and Pollution Prevention and Legal Counsel. Most of the Agency's staff are located in the Air, Land, and Water bureaus, which are under the Deputy Director for Environmental Operations and Administration

The Agency engages in a wide range of activities, including granting licenses, initiating enforcement actions, providing information and technical assistance, and providing recommendations to the legislature regarding measures to minimize and eliminate environmental pollution. Illinois EPA maintains a number of offices throughout the state that give public access to Illinois EPA services and provide resources for staff to accomplish necessary field and laboratory work.

## **Bureau of Air**

The Bureau of Air (BOA) is composed of two divisions, the Division of Air Pollution Control and the Division of Vehicle Inspection and Maintenance. The purpose of the Division of Air Pollution Control (DAPC) is to improve air quality by identifying air pollution problems, proposing appropriate regulations to control or reduce air contaminants, conducting inspections and reviewing permit applications to assure compliance with existing air pollution regulations. The primary purpose of the Division of Vehicle Inspection and Maintenance (DVIM) is to enforce vehicle emission limitations. To enforce the emission limitations, the DVIM operates a testing program for gasoline powered vehicles that measures exhaust emissions for carbon monoxide and hydrocarbons.

## **Bureau of Land**

The Bureau of Land (BOL) is comprised of the Division of Land Pollution Control and the Division of Remediation Management, and the Office of Planning and Reporting. The purpose of the Division of Land Pollution Control (DLPC) is to ensure that hazardous and nonhazardous wastes are managed in an environmentally sound manner and to implement regulatory programs such as the Resource Conservation and Recovery Act (RCRA) and the Solid Waste program. The Division of Remediation Management (DRM) is responsible for administering cleanup programs for hazardous waste sites (including Superfund), leaking underground storage tanks, and used tires. The Office of Planning and Reporting is responsible for the annual budgeting of the bureau's fiscal resources and for the daily fiscal management of the bureau's operations, the oversight of design and operation of electronic data systems, the receipt, storage, and distribution of all bureau records including the distribution of information to the public, the payment of

claims resulting from private party cleanup of LUST sites, and the development, coordination, and implementation of bureau training initiatives and licensing of landfill operators.

### **Bureau of Water**

The Bureau of Water (BOW) is composed of two divisions, Division of Water Pollution Control and the Division of Public Water Supplies. The purpose of the Division of Water Pollution Control (DWPC) is to assure that "no person shall cause or threaten or allow the discharge of any contaminants into the environment ... so as to cause water pollution in Illinois..." The water pollution control program is designed to identify sources of water pollution and implement steps to abate the pollution. Pollution can come from municipal, industrial, and commercial discharges as well as non-point sources from urban and agricultural runoff. The Division of Public Water Supplies (DPWS) is mandated by the Illinois Environmental Protection Act to "protect the public from disease and to assure an adequate supply of pure water for all beneficial uses." The DPWS attempts to assure that all persons served by community water supplies receive water that is adequate in quantity, safe in quality, clean, and of satisfactory mineral character for domestic consumption.

## **ILLINOIS EPA's INFORMATION TECHNOLOGY EVOLUTION**

### **Changed Expectations Regarding Information**

In the early 1990's, the Illinois EPA recognized the need to revise and reform its information management business practices. The recognition that change was needed was driven by several factors:

1. Increasing requirements for the regulated community to provide information sufficient to demonstrate compliance and to show their impact to the environment.
2. Pressure on the Illinois EPA to promptly, effectively, and efficiently utilize such information in its strategic reasoning and critical decision making processes.
3. Growing demands for access to such information by a number of interest groups for various purposes including assessing the performance of the regulated community as well as the performance of the regulators.
4. Revolution in computing technology that was beginning to make powerful and relatively inexpensive tools widely available, thereby making access to information economically feasible for practically everyone.
5. Demands from the regulated community to reduce reporting burden through regulatory reforms and the increased use of information management technology.

There were also major changes in legislation such as the Clean Air Act Amendments of 1990, the Safe Drinking Water Act Amendments (SDWA) of 1996, significant expansion of

regulatory requirements stemming from SDWA and the Clean Water Act during the 1990's, and the Illinois Electronic Commerce Security Act of 1998 which further emphasized the need to make major changes to the way in which the business of environmental information management is conducted. When President Clinton announced the One Stop Reporting Program in March 1995, he articulated the widely recognized goals of reducing industry's reporting burden to the extent possible; providing suitable information to promote effective and efficient environmental problem solving; and providing the public real-time access to environmental information.

During the same time frame of the early to mid-1990's, the Illinois EPA realized that meaningful and lasting reform would require significant changes in several areas:

1. Regulatory reform;
2. Internal business practices; and
3. Information management infrastructure and systems.

In 1997, the Illinois EPA contracted with Alpine Geophysics, LLC, to perform a *Review of Planning, Organizing, Automating and Funding of Information Management* in the Agency. This study identified areas where the Agency could improve its Information Management Infrastructure and emphasized increased Agency-wide coordination and integration of data. These recommendations have been incorporated into our infrastructure and data integration efforts and have provided valuable guidance in the business process evaluations that are ongoing.

## Federated Approach to Information Management

The Illinois EPA considered the various approaches that other environmental agencies were taking to address the demands and concerns posed by the rapidly emerging "Information Age." Some were approaching the challenge by consolidating their business practices along multi-media lines and developing function-focused information management systems for such areas as permitting, inspections, compliance, and environmental conditions data. Others, such as the state of New Jersey, chose to stay with the media-based approach and organized their information system to share data. The Illinois EPA took action to approach this challenge from what it terms a federated approach. The theme of such an approach is to plan centrally and execute locally. In this manner, the Illinois EPA determined that it would be most responsive to the needs and challenges of its various media programs while providing the benefits of standardization and consistency that centralization offered. This approach includes the development and implementation of an integrated environmental information management system using a common architecture and uniform means of facility identification. It also, includes collaboration in regulatory reform, information sharing, and the establishment of consistent business practices throughout the Illinois EPA. Consequently, the Illinois EPA has embarked on a multi-faceted approach to creating all of the necessary elements to achieve a lasting solution that would attain our goals. We have planned a deliberate, measured, and incremental approach designing, developing, and implementing the system. This approach better fits our business structure and environment and helps to better ensure success while

minimizing the risk that comes with the attempt to “buy a solution” without creating the business environment and culture needed to ensure its successful implementation. We have placed significant emphasis on fully understanding the business needs and practices to ensure that the technology solution fits the business rather than forcing the business to fit the technology. One additional component of our strategy was the solicitation of stakeholder input.

The following multi-faceted approach was organized, executed, and, in some cases, is continuing to evolve as part of our overall strategy to establish an information management system that meets our stated goals.

## **Information Management Vision and Goals**

Illinois EPA is at a juncture between the traditional “stove pipe” ways of doing business and the new cross-program work paradigm, which requires accessing multiple types of information to address such complex problems as non-point source pollution. Like most states, Illinois EPA’s information systems are currently geared toward the traditional approach, with separate media-specific information sources that are not linked electronically to one another. In order to solve many modern problems, and operate more efficiently and effectively, the Agency will need to retain current functionality to support traditional media functions while building towards the new cross-program paradigm.

Within the context of this new paradigm, the Agency’s information management vision is as follows:

“Within five years, the majority of our business processes will be capable of operating virtually without paper. Forms, publications, data will be available for viewing on-line. Reports from the regulated community and internal staff will be submitted electronically. Interactive transactions, such as applying for and receiving a permit, will be on-line.”

Building on this vision, the primary objective for the Agency’s Information Management efforts is to provide a more efficient and effective decision support system that will assist the bureaus in determining enforcement by providing a holistic view of a facility or responsible party. This objective will be accomplished through improving business processes, data quality, and information exchange between bureaus, sections, and units.

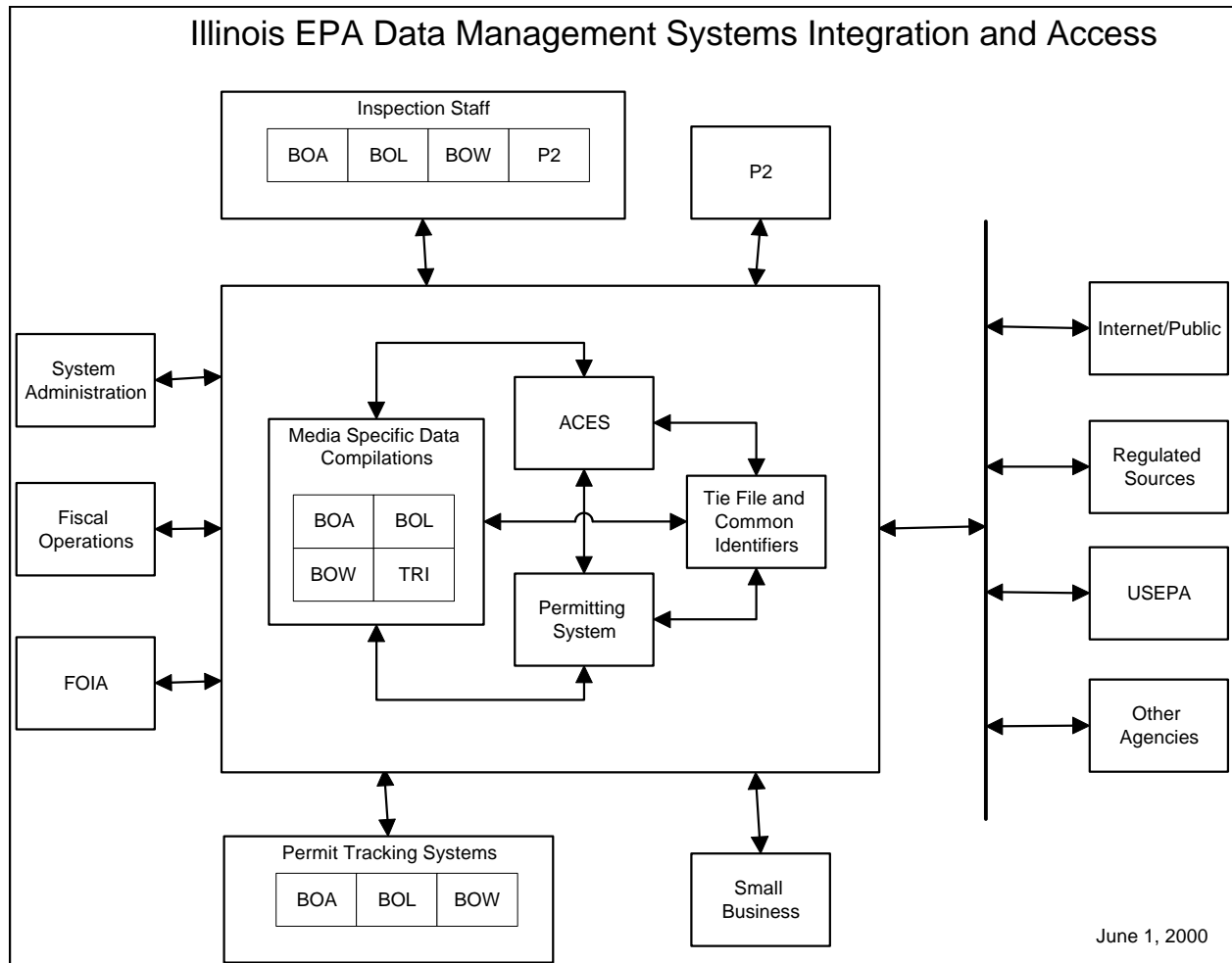
## **Building an Agency Enterprise System**

**(Common Architecture, Access Agency-wide, Web Accessible)** An Enterprise System means Agency-wide effort and data coordination, an integrated environmental data repository, common business practices, and the ability to achieve many views of data. An Enterprise System will:

- Enhance Agency efficiency and effectiveness
- Reduce costs and streamline workloads

- Eliminate data redundancy
- Make data more accessible to public
- Create E-commerce capabilities

The following diagram provides a schematic view of an enterprise system:



## Information Systems Development Efforts

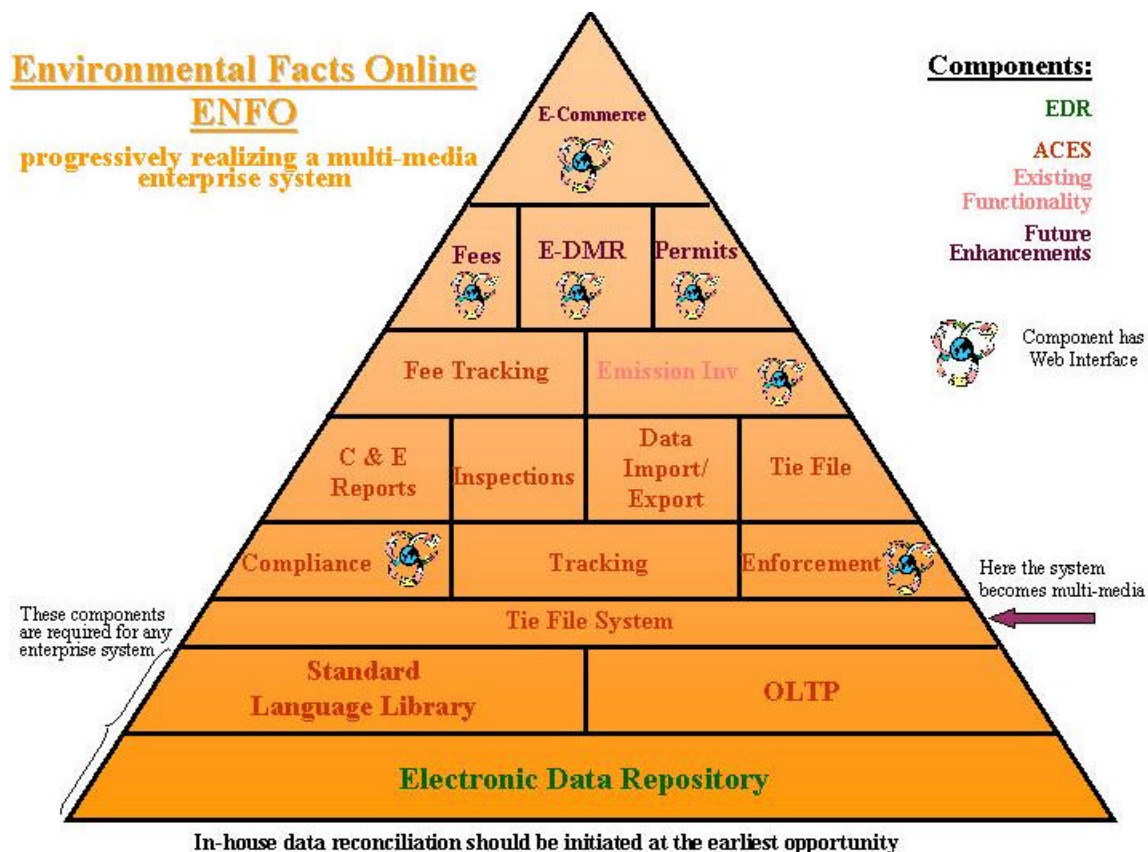
The Clean Air Act Amendments of 1990 were one of several catalysts that caused the Illinois EPA to assess its information management methods and systems. In response to the 1990 amendments, Bureau of Air evaluated its programs for permitting, fee billing inventory, reporting and enforcement tracking. The result was the general design of the **Integrated Comprehensive Environmental Data MANagement (ICEMAN)** system that was designed not only to meet the Bureau of Air's needs but also to be able to expand to meet other Illinois EPA program needs in the future. Since its inception in early 1993, ICEMAN has been in a state of continuous development as new modules have been added and existing modules modified or enhanced.

In 1999, Illinois EPA decided to take advantage of the expandability of ICEMAN and decided to do the compliance module as an agency system. The resulting Agency Compliance and Enforcement System (ACES) has been designed to functionally integrate as many agency activities as possible and provides the basic framework for the development of a comprehensive information system called Illinois ENvironmental Facts On-line (ENFO).

Success of the Agency vision of virtually paperless operations within five years depends on information systems development efforts. These efforts include ENFO and its core component ACES, the Integrated Comprehensive Environmental Data Management System (ICEMAN), Electronic Discharge Monitoring Reports (EDMR), and enterprise Geographic Information Systems (GIS) development. Countless other information systems have been developed to respond to program-specific needs within the media bureaus; only the Agency wide development efforts will be described in this section.

## Illinois ENvironmental Facts On-line (ENFO)

Illinois EPA's answer to the challenge of developing an enterprise environmental data system is ENFO, Illinois ENvironmental Facts On-line, a comprehensive information management system that will respond to the demands, from the various constituents that we serve, for useable, useful, and timely information. The following is a visual depiction of ENFO.



Illinois EPA is a regulatory agency but accomplishes its regulatory mission by being a data processing and information producing enterprise. Illinois EPA takes data from innumerable sources and transforms it into information that is used by the public, the regulated community, interest groups, and government.

ENFO is best explained using one of our basic regulatory tools, the permit, as an example. In issuing environmental permits the process is interactive. The initial exchange is to determine if the enquirer needs a permit. If one is required, an application form with attachments is completed and submitted. The application is reviewed and applicable laws and regulations are applied. Often there is extensive correspondence between the reviewer and the submitter. Ultimately, the permit is either denied or issued. If issued, it will be published in draft for public comment. The final permit will generally include conditions limiting the activities of the permittee. These conditions become the basis for field inspections. During field inspections, samples may be taken and laboratory analysis may be necessary to determine if the conditions of the permit have been met. If violations of permit conditions are found, they become the basis for an enforcement action. Enforcement actions are subject to many time sensitive restrictions, so they are tracked to ensure that no deadline is missed.

The various steps in the permit issuance and enforcement process are currently paper intensive and the process, in most cases, takes months. Envision instead a system that interactively tells a business if it needs a permit and provides for them to complete the application on line, affix a digital signature, and attached digitized blueprints; a system that allows the reviewer to zoom in on selected sections of a digitized blueprint in order to see if the technology is up to the task; a system that incorporates expert system capability to assist the reviewer in his task. If there is a question, the reviewer can e-mail the submitter who can respond in kind. When ready, the draft permit can be posted, for public review and comment, on the Illinois EPA web site and the final permit can be e-mailed with the appropriate agency digital signatures in place. Permit conditions automatically become part of the facility inventory and the scheduling of field activities. Field inspections are managed, monitored, and reported using tablet PC computers. Lab results are automatically matched up with the appropriate field inspection report and enforcement case. Permit applications and enforcement cases are tracked and timelines are monitored to avoid decisions by default.

ENFO is more than just an automated permit processing system. It seeks to incorporate every element of Illinois EPA operations. Citizen complaints become the basis for a field inspection and, possibly, an enforcement action. Grants awarded become part of the fact package available for that grantee. Emergency response activities are tracked and the statistics become part of the overall monitoring of environmental conditions. Underlying environmental data can be published in a variety of ways including using GIS based interactive enquiry systems.

ENFO will require an investment of several million dollars but this investment will yield a system that will reduce permit processing time by 25 – 50%; cut FOIA requests by 50 – 80%; increase the number of field inspections by 25%; reduce or eliminate the possibility



of decisions being made by default; and make a wealth of additional environmental information readily available to the public in an understandable format.

## **Agency Compliance and Enforcement System (ACES)**

The core of ENFO, ACES, will be an integrated electronic data repository that will support decisions based on agency-wide compliance and enforcement activities. System functionality will include importing and exporting of data, data conversion, a web interface, and standard and ad-hoc reporting capabilities. The ACES infrastructure will be composed of an Electronic Data Repository (EDR), On-Line Transaction Processing (OLTP), and a Standard Language Library. These three components are required for all enterprise architecture systems. ACES will become a cross-program, multimedia information system with the inclusion of the Tie File system, which will link Agency-wide information with common facility identifiers.

### **ACES Working Groups**

The ACES Working Group is responsible for guiding the ACES component of the Environmental Facts On-Line (ENFO) project. There are nine separate teams within the Working Group, each with functions specific to a particular component of the ACES development process. These nine teams are as follows:

- Tie File
- Business Practices
- Standard Definitions/Language Library
- Data Conversion/Legacy Systems
- Technical Infrastructure
- Outreach
- Technology Transfer
- Code Maintenance
- Functional Testing

Illinois EPA has planned a phased approach for the development of ACES that starts with facility data conversion and development of the Tie File system and completes with the construction of a web interface for public access to information. Data conversion and Tie File system development occur first in the process because of the time required for their completion and their foundational relationship to the rest of the ACES project. The Tie File Team in the ACES working group has already started matching facility data in the

southern counties of the state. After the initiation of data conversion and Tie File system development, infrastructure upgrades will occur, followed by the development of the three standard enterprise architecture system components: EDR, Standard Language Library, and OLTP. Finally, compliance and enforcement, data import and export, and reporting functionalities will be added, all of which will be integrated into a web-based interface for public access to ACES information.

One of the keys to an integrated agency information management system is the use of a single identification number for each facility (Common Facility Identifier) and a Site/Facility module that tracks core facility information (Tie File system). The absence of a fully integrated Tie File results in manually intensive efforts to obtain site/facility information to take a multi-media approach to permitting, compliance, inspections, enforcement, consolidated reporting, and outreach. Illinois EPA has made several efforts at addressing individual components of the Tie File, including the previously noted Facility Identifier Initiative with United States Environmental Protection Agency and the incorporation of basic Tie File capabilities into ICEMAN.

The Illinois EPA convened a Tie File committee five years ago to address the functional and practical issues associated with the use of a common facility identifier. This committee was comprised of representatives from the different bureaus, the Division of Legal Counsel (DLC) and the Office of Chemical Safety (OCS). This committee evaluated the Tie File system approach used by other states and recommended by the Environmental Council of States (ECOS). The ECOS recommendation provides “working guidelines for integrating facility identification information” for states and is referred to as FITS (Facility Identification Template for States). The Tie File committee chose to follow the FITS approach extensively.

The Illinois EPA is currently testing a more complete Tie File system as part of the components that make up ACES. The design of the Tie File system substantially follows the FITS II model with specific allowances made for the mobile sources and multiple geographic coordinate issues. This Tie File design also addresses the historical changes associated with core site/facility information. The Illinois EPA worked with the USEPA and other stakeholders to identify the core facility information to be stored in the Tie File system.

One of the keys to the successful implementation of a Tie File system is the database population of “scrubbed” (valid and verified) core site/facility data from all of the media. This initial population of these core data will be a significant effort as will the ongoing maintenance of these data. With the concurrent implementation of an Agency-wide compliance and enforcement system, the overall benefits are expected to more than compensate for the Tie File maintenance efforts.

## **Electronic Discharge Monitoring Reports (e-DMR)**

The goal of our Electronic Discharge Monitoring Report (e-DMR) Project is to make e-commerce technology available to regulated wastewater treatment facilities that are required to participate in the Illinois EPA’s monitoring and compliance tracking program. When fully implemented, this system will streamline the handling of wastewater monitoring data for both

the facilities and the Agency and will greatly increase the efficiency for all participants. The Federal Clean Water Act requires that all dischargers to surface waters through point sources must obtain a permit regulating the discharge of their wastewater. In Illinois, as in most states, the responsibility for administering and enforcing that permitting program is delegated to the state and, in Illinois, the delegation is to the Illinois EPA. Our e-DMR initiative is funded by grants from the USEPA.

The purpose of the Illinois Wastewater Discharge Monitoring Program is to protect Illinois' rivers, streams and lakes and, in order to manage the potentially harmful effects from their outflows, wastewater treatment facilities are required to test their discharges and report the results to the Illinois EPA on Discharge Monitoring Reports (DMRs). The National Pollutant Discharge Elimination System (NPDES) Permits issued to dischargers require that Discharge Monitoring Reports (DMRs) include the test results from samples taken from surface water discharges. Currently, 2,641 wastewater treatment facilities in Illinois submit approximately 3,500 paper-based monthly DMRs to the Illinois EPA and this data is currently manually entered into Illinois EPA & federal data systems.

The Discharge Monitoring Report Form is a pre-printed, pre-populated form that is provided to the regulated facilities by Illinois EPA. We will be working with Adobe Systems, Inc. to design e-forms that effectively capture the required information but are more user friendly than this paper version. DMRs are legal documents, which carry civil & criminal penalties for falsification. In designing an electronic system, an important consideration is that the DMR certification statement must be signed by an authorized person who, by their signature, attests to the information's accuracy and completeness. We are confident that Entrust's Public Key Infrastructure (PKI) digital signature expertise will enable us to design and implement a system with the use of digital signatures that meets these rigorous legal requirements.

There are many reasons to change from the existing paper-based system to an electronic system. Pre-printing and distributing DMRs to facilities is costly, particularly in terms of staff time. Paper DMR forms must be typed using a standard typewriter. DMRs must be manually logged, data entered, copied, and filed. Errors can and often do occur during data entry. Quality control checks are time consuming and responses to and from the filing facilities are paper-based which means they take time. Because of the manual processing of the data there is a time delay before it is available for use.

Illinois EPA faces several challenges which must be addressed in order to ensure the successful implementation of an electronic DMR reporting system:

- The system must verify and validate the identity and authority of the individual signing and submitting the DMR.
- The system must allow users access only to the parts of the e-DMR system for which they are authorized.
- The system must provide assurance to both the user and the Illinois EPA that the transactions are binding.

- The system must protect the data from the time it is entered by the user until it is received and processed by the Agency.
- System security management must be transparent, seamless, and consistent to the users of the e-DMR system.

The Illinois EPA has teamed up with Entrust and Adobe Systems, both of whom have Master Contract arrangements with the State of Illinois, to meet the challenges of designing and implementing the e-DMR system. Using a Web browser over the Internet, a facility user will log on to the e-DMR system. The Entrust True-Pass server will validate the users digital identity with the Certificate Authority maintained at the Illinois Central Management Services. User system access entitlements will be verified and the appropriate Adobe web-forms will be displayed based on a user's privileges. The e-forms submitted will be captured in a flat extensible markup language (XML) file that will create an archive image of the actual submission. This will eventually allow anyone that is interested to review a digital image of the actual submission. In addition, the data contained in the submission will be stored in a backend Oracle database where it can be used for compliance tracking and analysis. The e-DMR security processing will be behind the scenes and will be transparent to the user. The e-DMR system will provide a legal, convenient to use system for completing and submitting electronic DMRs to the Illinois EPA.

Some of the benefits we anticipate are:

- The demand for paper DMR's will be reduced resulting in less preprinting and distribution costs.
- The e-DMR system will eliminate the need for the use of typewriters to complete the DMRs.
- The need to manually log and enter DMR data will be eliminated and copying and filing will also be reduced or eliminated.
- By eliminating the re-keying of data and improving on-line data quality checks, data quality will be improved.
- E-DMR data will be instantly available for compliance determinations. To put this in perspective, current processing takes 18 - 27 days.

## **Geographic Information Systems (GIS) Integration Efforts**

The Illinois EPA GIS Steering Committee, composed of representatives from various program offices, is addressing ways in which GIS can support decision making in the Agency. The Committee has drafted GIS Standards and Procedures documents to communicate ideas regarding the consistent use of geospatial information. The Draft GIS Procedures document is intended improve the accuracy of GIS data and the efficiency of

GIS-related processes Agency-wide by establishing consistent procedures. The document specifies procedures for converting spatial data into digital coverages, digitizing data, and recording the history of each data layer and source map. The Draft GIS Standards document describes necessary components of each GIS and map product deliverable.

The GIS Steering Committee has also drafted an outline for a plan to create an enterprise GIS architecture. This outline consists of seven phases that would transform the current distributed GIS configuration of the Agency into a fully integrated shared GIS web server that uses ArcSDE and Oracle to provide secure, web-based access to all Illinois EPA geospatial data. It is yet undetermined how GIS data integration through the use of ArcSDE would be coordinated with ACES and ENFO. However, GIS Steering Committee members are interested in examining opportunities for coordination.

Demands for GIS capabilities are increasing around the Agency. Access to place-based information is a powerful decision making tool that can allow Illinois EPA employees and the public to visualize environmental problems and relationships between various phenomena. Several GIS systems are currently in operation, including the Illinois Geographic Lithologic Analysis Support System (I-GLASS) and the Air Information Retrieval and Map Analysis Program (AirMap). I-GLASS can display base layer information such as geologic, transportation, and political layers, and integrate Bureau of Water programmatic data such as wellhead protection and watershed data. This system allows novice GIS users to easily query and create maps. AirMap was developed as an intranet application to serve the internal needs of the Agency and to serve as a pilot for a future version that will provide similar capabilities to the public on the Agency web site. This program provides real-time access to the Agency's Ambient Air Monitoring and emissions inventory data.

## **One Stop Building Blocks: Opportunities and Challenges**

Five key building blocks have been identified as part of the One Stop Reporting Program's approach to building a framework for individual state environmental agency information management initiatives. These building blocks, which should be incorporated into every reporting system, include the following:

- Burden Reduction
- Data Integration
- Stakeholder Process
- EPA/State Electronic Reporting
- Public Access

This section describes current and future Illinois EPA activities in each of these areas and some of the challenges and opportunities that the Agency faces.

## **Burden Reduction**

The elimination of obsolete, duplicative and unnecessary monitoring, record-keeping and reporting requirements can reduce burden in any environmental agency. E-DMR, ACES, and the subsequent completion of ENFO, will play significant roles in burden reduction for Illinois EPA. While staff who process requests for information must currently seek data from a variety of sources, ACES will allow those staff to seek information from a single location, decreasing the time and effort required to serve Illinois EPA customers. E-DMR will represent a tremendous service improvement to wastewater treatment plants and, through its focus on improving web-based public access to information, ENFO will offer further burden reduction potential. If more information is available to the public and other parties via the internet, fewer information requests will arise for Illinois EPA staff.

## **Information Integration**

The one stop reporting program lists six critical success factors for state environmental agency information integration projects. Illinois EPA is addressing each of these factors in various ways. Below are descriptions of the agency's current and future efforts with respect to each factor.

### *COMMUNICATION*

A challenge for any agency is to communicate big picture information integration ideas to staff who are constantly engaged in detailed programmatic work. Recognizing that intra-Agency communication is a continuous process, a conscious and directed effort must exist in order to successfully pass information from managers to staff. Illinois EPA has successfully established cross-program communication groups such as the ACES workgroup and the Agency Information Management Systems (AIMS) committee that address the communication of an information management and integration vision throughout the Agency. An opportunity for improving these groups exists through focusing on the vertical flow of information in the Agency, and more specifically, communication between managers and programmatic staff. Clear definitions of the roles and responsibilities of the ACES workgroup and AIMS committee help delineate specific actions to assist in vertical communication.

### *COMMITMENT*

The Illinois EPA Director has provided a clear information vision to the Agency through support of the ACES and ENFO projects. Additionally, high level managers across the Agency understand the resource and business process implications of a re-engineering of Illinois EPA's information management systems. As Illinois EPA already understands, a high level of commitment is necessary from all agency staff if information integration efforts are to be successful.

#### *BUSINESS PROCESSES AND DECISIONS*

Strategic thinking and planning that incorporate input from the entire Agency will provide valuable support for business process changes and agency-wide decisions regarding Illinois EPA information integration projects. A thorough understanding of the underlying strategic concepts will ease the transition from performing separate program-specific functions to offering Illinois EPA customers access to cross-program services and information.

#### *STRATEGY AND SIMPLICITY*

Integration must not be performed simply for the sake of integration. There must be some well-formulated business strategies that require integration to support them. These strategies, if clearly defined and articulated, can be used to justify the costs that information integration projects incur and to provide a framework for creating incremental achievements throughout the process. Strategic planning for ACES and ENFO will consist of a formal process that outlines goals and objectives based on input from all levels in the Agency. Illinois EPA will use a fully developed strategic plan to accomplish information integration tasks in a stepwise manner, and to manage expectations regarding the level of input required for successfully completing ACES and ENFO.

#### *PROJECT MANAGEMENT*

Many states are creating agency-wide information managers who are responsible for facilitating information investment decisions and strategic planning. These information managers, often called chief information officers (CIO), are particularly important during transitions in agency leadership. Although Illinois EPA has not established a CIO, an ACES Project Manager position has been created, to coordinate ACES and ENFO, and address the challenge of intra-agency communication.

#### *TECHNOLOGY*

The Agency is constantly making technological improvements and will continue to do so as appropriate technology is made available. Illinois EPA has capitalized on opportunities presented by new technologies by making appropriate decisions regarding network development and establishment of database platform standards. While keeping in mind the importance of technology, Illinois EPA must face the challenge of emphasizing that information, not technological improvements, should be the focus of Agency information integration discussions. Illinois EPA will continue to refine its technical infrastructure while recognizing that technological developments should not lead the information management process. The development of ACES and ENFO is an opportunity for Illinois EPA to focus conversations on the information for which technology is a management tool.

## **Stakeholder Process**

Stakeholders are representatives from business, industry, states, tribes, community, federal, state and local governments and others who are directly and indirectly affected by the decisions and actions of Illinois EPA. Stakeholder input is an important part of the agency's overall information management strategy. For ACES development, interviews with stakeholders were a required component of the design process. Current stakeholder activities include outreach and technical assistance for schools, businesses, and the general public. The agency also tracks all questions and comments received from external sources in a "helpline database." This database currently presents a challenge because it does not perform key word queries. Agency information integration projects may provide opportunities to address this challenge by developing information systems that are more easily queried.

## **State Electronic Reporting**

In the internet age, the regulated community expects environmental agencies to support electronic reporting via the web. This expectation is reflected in the fact that electronic reporting is a major component of the vision for the ACES and ENFO projects. While Illinois EPA has not yet developed any web-based electronic reporting capabilities, some information is submitted electronically on diskettes, such as hazardous waste annual report records, water supply analyses, and tri inventory reports. Other reporting is still submitted on paper.

## **Public Access**

Enhancing public access to environmental data, including data from sources, data about regulator performance, and data on environmental status and trends is a core goal for both One Stop and Illinois EPA. A significant result of Illinois EPA activities will be to dramatically increase the ability to make information available to the public in a timely, flexible, and easy to use manner that enables the information to be readily understood. Agency projects that address the need for public access include ACES, ENFO, e-DMR, enterprise GIS architecture planning, and ICEMAN.

## **Grant Related Activities**

Illinois EPA has contracted with Windsor Technologies to develop and implement ACES. The total cost will be \$1,392,325. The \$500,000 One Stop grant funding is utilized to pay for early deliverables in the ACES project. The following table details ACES deliverables. Those covered by One Stop funding are highlighted.



Task No.	Project Activity	Deliverable	One Stop
1.1	Complete Phase 1 Start-Up	Project Standards Document	One Stop
	Update Phase 1 Workplan	Phase 1 Workplan	One Stop
	Complete Development Plan & Change Management Plan	Change Management Plan	One Stop
	Transition/Implementation Strategy Plan	Transition / Implementation Strategy Plan	One Stop
	Update/Confirm User Requirements	Updated ACES User Requirements Document	One Stop
	System Analysis of Core Systems	System Analysis Document	One Stop
	Detailed Functional Design of the Core Systems	Functional Design Document	One Stop
	Complete Technical Architecture	Technical Architecture Document	One Stop
	Application Development	Tie File System Compliance	One Stop
	Application Development	Compliance Tracking Enforcement	One Stop
1.10	Application Development	On line Transaction Processing	One Stop
	Application Development	Standard Language Library	
	Data Conversion Program Development	Data Conversion Development Completed	
	System Testing Completed	System Testing Scripts	
	Complete Core Systems Documentation	Completed Core Systems Documentation	
	Core System Accepted Signoff	User Acceptance Testing Completed	
	Production System Ready	Implementation of Core Systems into Production	
	Conduct Training Activities	Complete Training Activities	
	Data Conversion	Data Conversion Completed	
	Validation of Production Capabilities	Production Software Review	
	Update Phase 2 Workplan	Phase 2 Workplan	One Stop
	Analyze & Confirm/Identify User Requirements	Analysis & User Requirements Document	One Stop
	Detailed Functional Design of Inspections	Detailed Design Document	One Stop
	Technical Architecture	Updated Technical Architecture Document	One Stop
	Transition/Implementation Planning	Updated Transition / Implementation Strategy Plan	One Stop
	Application Development of Inspections	Application Development Completed	
	Data Conversion Program Development	Data Conversion Program Development Completed	
	System Testing	System Testing Scripts	
	Develop System Documentation	Inspection Sub-System Documentation	
2.10	Support User Acceptance Testing	User Acceptance Testing Completed	
	Production System Ready	Implementation of Inspections System Into Production	
	Conduct Training Activities	Training Activities Completed	
	Data Conversion	Data Conversion Completed	

Task No.	Project Activity	Deliverable	One Stop
	Update Phase 3 Workplan	Phase 3 Workplan	
	Analyze & Confirm/Identify User Requirements	Updated Analysis & User Requirements Document	
	Detailed Functional Design of Import/Export Technical Architecture	Detailed Design Document	
	Transition/Implementation Planning	Updated Technical Architecture Document	
	Application Development of Import/Export	Updated Transition / Implementation Plans	
	Data Conversion Program Development	Application Development Completed	
	System Testing	Conversion Program Development Completed	
	System Documentation	System Testing Completed	
3.10	Support User Acceptance Testing	Completed Import/Export Documentation	
	Production System Ready	User Acceptance Testing Completed	
	Conduct Training Activities	Implementation of Import/Export System	
	Data Conversion	Completed Training Activities	
	Update Phase 4 Workplan	Data Conversion Completed	One Stop
	Analyze & Confirm/Identify User Requirements	Phase 4 Workplan	One Stop
	Detailed Functional Design of Fee Tracking	Updated Analysis & User Requirements Document	One Stop
	Technical Architecture	Detailed Design Document	One Stop
	Transition/Implementation Planning	Updated Technical Architecture Document	One Stop
	Application Development of Fee Tracking	Transition/Implementation Strategy Plan	One Stop
	Data Conversion Program Development	Application Development Completed	
	System Testing Completed	Conversion Program Development Completed	
	Develop System Documentation	System Testing Scripts	
4.10	Support User Acceptance Testing	Complete Fee Tracking Documentation	
	Production System Ready	User Acceptance Testing Completed	
	Conduct Training Activities	Implementation into Production	
	Data Conversion	Completed Training Activities	
	Update Phase 5 Workplan	Data Conversion Completed	
	Analyze System Assurance Requirements	Phase 5 Workplan	
	Detailed Functional Design	Updated Analysis & User Requirements Document	
	Technical Architecture	Detailed Design Document	
	Transition/Implementation Planning	Updated Technical Architecture Document	
	System Assurance Application Development	Transition / Implementation Plan Document	
	System Testing	Application Development Completed	
		Complete System Testing	

<b>Task No.</b>	<b>Project Activity</b>	<b>Deliverable</b>	<b>One Stop</b>
5.10	Develop System Documentation	System Assurance Subsystem Documentation	
	User Acceptance Testing	User Acceptance Testing Completed	
	Production System Ready	Implementation into Production	
	Conduct Training Activities	Training Activities Completed	
	Update Phase 6 Workplan	Phase 6 Workplan	One Stop
	Analyze & Confirm/Identify User Requirements	Analysis & User Requirements Document	One Stop
	Detailed Functional Design of LFGW	Detailed Design Document	One Stop
	Technical Architecture	Updated Technical Architecture Document	One Stop
	Transition/Implementation Planning	Transition / Implementation Plan	One Stop
	Application Development of LFGW	Application Development Completed	
6.10	Data Conversion Program Development	Conversion Program Development Completed	
	System Testing	System Testing Scripts	
	Develop System Documentation	Complete LFGW Documentation	
	User Acceptance Testing	User Acceptance Testing Completed	
	Production System Ready	Implementation of LFGW System into Production	
	Conduct Training Activities Data Conversion	Training Activities Complete Data Conversion Complete	